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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,401	02/26/2001	Wilhelm F. Maier	STUDIEN 277	3610

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EXAMINER
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BAKER, MAURIE GARCIA

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/700,401**

Applicant(s)  
**Maler et al**

Examiner  
**Maurie G. Bak r, Ph.D.**

Art Unit  
**1639**



**– The MAILING DATE of this communication appears on the cover sheet with the corresponding address –**

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on Dec 9, 2002

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 1-14 is/are pending in the application

4a) Of the above, claim(s) 5 and 10-12 is/are withdrawn from consideration

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-4, 6-9, 13, and 14 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirements.

## Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some\* c) ☒ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_

6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The Response filed December 9, 2002 (Paper No. 12) is acknowledged. No claims were amended, cancelled or added. Therefore, claims 1-14 are pending.

#### *Election/Restriction*

2. Applicant's election of species as set forth in Paper No. 12 is acknowledged. However, this election was deemed to not be fully responsive to the prior Office Action (Restriction Requirement) because the species set forth therein were not specific.

3. In the interest of compact prosecution, the examiner called the attorney of record on February 12, 2002 and discussed the requirement. In a subsequent phone call, the attorney elected the following species, with traverse:

For Species 1: Type of "materials library": catalyst  
For Species 2: Type of solids (comprising the library): porous  
For Species 3: Type of reaction mixtures/compositions: liquid phase  
For Species 4: Type of "reactor bottom plate" (see, e.g. claim 7): single crystal  
that scatters x-rays elastically

4. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5, 10, 11 and 12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species, there being to allowable generic claim. Note that claims 5, 10, 11 and 12 deal with X-ray *transparent* materials, which are clearly a different species than that which is elected (single crystal that scatters x-rays elastically).

5. Therefore, claims 1-4, 6-9, 13 and 14 are examined on the merits in this action.

6. Please note MPEP § 803.02 with respect to species elections (emphasis added):

Following election, the Markush-type claim will be examined fully with respect to the elected species and further to the extent necessary to determine patentability. If the Markush-type claim is not allowable over the prior art, examination will be limited to the Markush-type claim and claims to the elected species, with claims drawn to species patentably distinct from the elected species held withdrawn from further consideration. **The prior art search, however, will not be extended unnecessarily to cover all nonelected species.** Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection, as by amending the Markush-type claim to exclude the species anticipated or rendered obvious by the prior art, the amended Markush-type claim will be reexamined. The prior art search will be extended to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim will be rejected and the action made final. Amendments submitted after the final rejection further restricting the scope of the claim may be denied entry.

#### ***Priority***

7. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 5/16/1998. It is noted, however, that applicant has not filed a certified copy of the application as required by 35 U.S.C. 119(b).

#### ***Drawings***

8. A brief description of the several views of the drawing(s) is not present in the instant case and/or it is not properly located. A reference to and brief description of each Figure in the drawing(s) is required as set forth in 37 CFR 1.74. It appears that this may be present on page 14 of the instant specification, if so, it is improperly located. The following guidelines illustrate the preferred layout and content for patent applications.

#### **Arrangement of the Specification**

The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold

type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) Title of the Invention.
- (b) Cross-Reference to Related Applications.
- (c) Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
  - 1. Field of the Invention.
  - 2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (i) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 2-4 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. See specifics with respect to each claim below.

- A. Claim 2 recites “which are introduced into the reaction plates in the form of isolated cavities as bores”. This phrase is indefinite as it is completely unclear what is meant.
- B. Claim 3 recites “subsequently freed from the supernatant liquid phase and calcined”. It is unclear how the solids could be “freed”. Are the solids now not attached to the reactor bottom plate? If so, where are they located?
- C. Claim 4 recites “library substrate”. This term lacks antecedent basis. Claim 4 also recites that the solids are “adhesively deposited”. This is confusing and lacks clear antecedent basis. Claim 4 also recites that the reactor bottom plate “constitutes the materials library together with the deposited calcined solids”. The term “deposited calcined solids” lacks antecedent basis. Moreover, what are these solids, how are they deposited and how do they differ from the “materials library”? This adds a great deal of confusion to the claim.
- D. Claim 7 recites “preferably...”. The term “preferably” renders the claim indefinite because it is unclear whether the limitation(s) following the term are part of the claimed invention. See MPEP § 2173.05(d). Claim 8 depends from claim 7.
- E. Claim 9 recites that X-ray diffraction “is employed as an analytical method”. This is indefinite and confusing as there is no previous mention

of an analytical method in the claims on which claim 9 depends. What is this analytical method for? The claim is incomplete.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent. *Please see attachment.*

12. Claims 1-4, 6-8, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Atkins et al (WO 99/19724; filing date 10/8/1998; priority 10/10/1997).

Atkins et al discloses a materials library, specifically a catalyst library and reactors for making such libraries (see Abstract). With respect to the reactors of the reference, both reactors and microreactors are disclosed; see Figures, page 3, lines 13-21 and page 4 lines 14-28 for example. The reactor structure is described, for example, on page 15, lines 11-34 and page 27, lines 15-32. This reads on the reactor structure of the instant claims 1, 2, 13 and 14. The reactor clearly has a “reaction plate” and a “removable reactor bottom plate” as required by the instant claims (see, for example, Figures 25 & 26 and accompanying text; Figures 21 & 22 described on page 28, line 21 through page 29, line 10). Calcination of the libraries is disclosed on page 7, lines 31-34 and in Figure 28A, for example. The reference discloses liquid phase reaction mixtures (see, page 7,

lines 8-13, Fig 28A and page 28, lines 13-20, for example) and porous catalyst libraries (see, for example, page 7, lines 18-24). The microreactors of Atkins et al can be made of silica (see page 27, lines 15-32, especially lines 26-29). Lastly, the reference discloses screening of the libraries, reading on instant claim 6, see, for example, page 25, line 18 through page 26, line 10.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).



15. Claims 1-4, 6-9, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atkins et al, as set forth above, in view of Hajduk et al (US 6,371,640).

The teachings of Atkins et al are set forth *supra*. The reference teaches a materials library, specifically a catalyst library and reactors for making such libraries that read on those claimed.

Atkins et al lacks the specific teaching of using X-ray diffraction for the characterization of the materials library.

However, the use of such techniques was well established in the art at the time of filing, as evidenced by the teachings of Hajduk et al. The reference teaches an apparatus for characterizing a library of materials using an x-ray beam directed at the library (see Abstract). X-ray diffraction is a standard materials characterization technique and the advantages of such are well known (see Hajduk et al, column 2, lines 5-28). The apparatus of Hajduk et al is discussed in columns 2-3 of the reference and a plate used for analysis of a library is clearly disclosed (see, for example, Figure 3).

Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to use the plate of Hajduk et al for the analysis of a library as prepared by Atkins et al (i.e. plate used for x-ray analysis as the “reactor bottom plate”). One of ordinary skill would have been motivated to do so due in order to test a large number of samples via x-ray diffraction, an art standard materials characterization technique.


*Status of Claims/Conclusion*

16. No claims are allowed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurie Garcia Baker, Ph.D. whose telephone number is (703) 308-0065. The examiner can normally be reached on Monday-Thursday and alternate Fridays from 9:30 to 7:00.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang, can be reached at (703) 306-3217. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Maurie Garcia Baker, Ph.D.  
February 20, 2003

  
MAURIE GARCIA BAKER, Ph.D.  
PRIMARY EXAMINER

## **Recent Statutory Changes to 35 U.S.C. § 102(e)**

On November 2, 2002, President Bush signed the 21st Century Department of Justice Appropriations Authorization Act (H.R. 2215) (Pub. L. 107-273, 116 Stat. 1758 (2002)), which further amended 35 U.S.C. § 102(e), as revised by the American Inventors Protection Act of 1999 (AIPA) (Pub. L. 106-113, 113 Stat. 1501 (1999)). The revised provisions in 35 U.S.C. § 102(e) are completely retroactive and effective immediately for all applications being examined or patents being reexamined. Until all of the Office's automated systems are updated to reflect the revised statute, citation to the revised statute in Office actions is provided by this attachment. This attachment also substitutes for any citation of the text of 35 U.S.C. § 102(e), if made, in the attached Office action.

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 in view of the AIPA and H.R. 2215 that forms the basis for the rejections under this section made in the attached Office action:

**A person shall be entitled to a patent unless –**

**(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.**

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 prior to the amendment by the AIPA that forms the basis for the rejections under this section made in the attached Office action:

**A person shall be entitled to a patent unless –**

**(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.**

For more information on revised 35 U.S.C. § 102(e) visit the USPTO website at [www.uspto.gov](http://www.uspto.gov) or call the Office of Patent Legal Administration at (703) 305-1622.